Air Quality Permitting
Technical Memorandum

Tier II Operating Permit No. 031-00026

SINCLAIR OIL CORPORATION BURLEY PRODUCTS TERMINAL
BURLEY, IDAHO

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Permit Status:

FINAL

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ACRONYMS, UNITS, and CHEMICAL NOMENCLATURE

AQCR	Air Quality Control Region
ASTM	American Society of Testing and Materials
CFR	Code of Federal Regulations
Department	Department of Environmental Quality
EPA	Environmental Protection Agency
HAPs	Hazardous Air Pollutants
IDAPA	A numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act.
km	kilometer
lb/hr	pounds per hour
PTC	permit to construct
SIC	Standard Industrial Classification
T/yr	tons per year (1 T = 2000 lbs)
U.S. gal/yr	United States Gallons per year (unique in comparison to the United Kingdom and Canadian gallon)
UTM	Universal Transverse Mercator
VOC	volatile organic compounds

1. PURPOSE

The purpose for this memorandum is to satisfy the requirements of IDAPA 58.01.01 Sections 400 through 406, *Rules for the Control of Air Pollution in Idaho,* for Tier II Operating Permits.

2. PROJECT DESCRIPTION

This project is for the renewal of a Tier II operating permit for the Sinclair Oil Corporation Burley Products Terminal located at Burley, Idaho. It creates state and federally enforceable limitations on the facility's potential to emit HAPs, and VOCs.

This permit allows the Burley Products Terminal facility to remain a synthetic minor for HAP emissions. A synthetic minor HAPs source is referred to as an "area source" within the MACT standards. Bulk gasoline distributors recognized as area sources of HAPs avoid the stringent MACT standards installation requirements.

3. SUMMARY OF EVENTS

DEQ received an application to renew the Tier II operating permit for the Sinclair Oil Corporation Burley Products Terminal.

Initial Tier II operating permit issued.	August 23, 1996
Renewal application received.	May 21, 2001
Renewal application determined incomplete.	September 27, 2001
Additional information received.	April 2, and 12, 2002
Renewal application determined complete.	April 26, 2002
Facility draft Tier II permit issued.	July 3, 2002
Facility comments received.	July 12, 2002.
Public Comment Period begins.	August 6, 2002
Public comments received.	September 4, 2002

4. FACILITY DESCRIPTION

4.1 General Facility Process Description

External Floating Roof Storage Tanks (Tanks 301, 304, 311, and 321): These tanks have external mechanical-shoe-type floating roofs. Each tank is 60 feet in diameter, and has a storage capacity of 840,000 U.S. gallons. Gasoline or distillate fuel grade petroleum products can be stored in these tanks.

Fixed Roof Storage Tanks (Tanks 302, 305, and 306): Each tank is 60 feet in diameter, with a storage capacity of 840,000 U.S. gallons. Distillate fuel grade petroleum products only can be stored in these tanks.

Transmix Storage Tank: The transmix storage tank is a fixed-roof type with a storage capacity of 3,808 U.S. gallons. It is used to store "slop oil" (i.e. off specification petroleum products, residual products from the other storage tanks, water-contaminated petroleum products, or other non-commercial products).

Prover Storage Tank: The prover tank is a fixed-roof type with a storage capacity of 735 U.S. gallons. It is used to calibrate the flow meters in the loading rack system.

Gasoline and Distillate Fuel Grade Petroleum Product Loading Rack System: Dispensing product at the parallel two-bay loading rack system, causes displaced vapors from the truck cargo tanks to discharge to the atmosphere through the loading hatches in the top of the tank.

Fugitives: Fugitive emissions stem from several sources, such as: pump seals, valves, flanges, gasoline additive tanks, drains, and truck-loading activities.

4.2 Facility Classification

The facility is not a designated facility as defined in IDAPA 58.01.01.006.27. The AIRS Facility Subsystem classification is A, potential emissions of any criteria pollutant are greater than 100 T/yr. The facility is not subject to PSD permitting requirements for a major modification because, although the facility's potential to emit is greater than 250 T/yr (100 T/yr for designated facility), the facility was constructed prior to the promulgation of the PSD regulations, and has not been modified since the initial construction. This facility is a bulk petroleum storage terminal, SIC code 5171.

4.3 Area Classification

The Sinclair Oil Corporation Burley Products Terminal, Cassia County, Idaho, is located in AQCR 64. The area is classified as unclassifiable for all federal and state criteria air pollutants (i.e., PM_{10}, SO_x, O_3, NO_2, CO, and Pb). There are no Class I areas within 10 km of the facility.

5. TECHNICAL ANALYSIS

5.1 Emissions and Throughput Limitations

Table 5.1 ANNUAL EMISSIONS LIMITS[a,b]

Source Description	VOCs (T/yr)	Aggregated HAPS (T/yr)
1. Tanks 301, 304, 311, and 321	60.68	1.744
2. Tanks 302, 305, 306	1.17	0.039
3. Transmix tank	0.27	0.007
4. Prover tank	0.26	0.007
5. LOADING RACK: Gasoline service	357.6	9.42
6. LOADING RACK: Distillate fuel oil service	3.26	0.105
7. Other source emissions	1.24	0.332
Total emissions	424.5	11.6

[a] As determined by a pollutant-specific U.S. EPA reference method, or DEQ-approved alternative, or as determined by DEQ's emissions estimation methods in this permit analysis.

[b] Allowable throughput is to be determined on a 12-month rolling basis with compliance recordkeeping data compiled on a monthly basis.

Table 5.2 ALLOWABLE PETROLEUM PRODUCT THROUGHPUTS AND PRODUCT TYPES

Source Description	Throughput* (U.S. gallon)	Product Type
1. Tanks 301, 304, 311, and 321	345,436,000	Gasoline or distillate fuel oil
2. Tank s 302, 305, and 306	466,798,500	Distillate fuel oil
3. Transmix tank	38,080	Gasoline or distillate fuel oil
4. Prover tank	220,200	Gasoline or distillate fuel oil
5. LOADING RACK: Gasoline service	107,310,000	Gasoline
6. LOADING RACK: Distillate fuel oil service	462,996,000	Distillate fuel oil

* Allowable throughput is to be determined on a 12-month rolling basis with compliance recordkeeping data compiled on a monthly basis.

5.3 Regulatory Review

5.3.1 Scope

This Tier II operating permit establishes facility-wide requirements limiting the facility's potential to emit HAPs to below major source levels, and complying with ambient air quality standards in accordance with the *Rules.*

5.3.2 Facility-wide Conditions

Sulfur Content - (Permit Condition 2.15)

IDAPA 58.01.01.728 states that: *"No person shall sell, distribute, use, or make available for use any distillate fuel oil containing more than the following percentages of sulfur:*

- *ASTM Grade 1 fuel oil - 0.3% by weight.*
- *ASTM Grade 2 fuel oil - 0.5% by weight."*

Compliance Demonstration – (Permit Condition 2.16)

The Burley Products Terminal facility must monitor and record the sulfur content of ASTM Grades 1 and 2 fuel received using either Facility-wide Condition 2.16.1 or 2.16.2. Facility-wide Condition 2.16.1 requires testing each fuel shipment when it is received. Facility-wide Condition 2.16.2 requires the Burley Products Terminal to obtain sulfur content documentation from the supplier of each fuel shipment.

5.3.3 Gasoline and Distillate Fuel Grade Petroleum Product Storage Tanks

5.3.3.1 Emissions Limit - (Permit Condition 3.3)

Emissions from the external floating roof storage tanks occur as a result of standing and withdrawal losses as defined per AP-42, Section 7, and were calculated using Tanks Version 4.0 software. The maximum potential emissions from any one of these tanks occur when gasoline is loaded, stored, and unloaded at the defined maximum throughput. The maximum throughput for any one of these tanks is defined as the capacity of the pipeline supplying the terminal that distributes product to three of the four storage tanks. (This assumes that one of the storage tanks is off line for maintenance.)

Emissions from the transmix storage tank occur as a result of breathing and working losses as defined in AP-42, Section 7, and were calculated using Tanks Version 4.0 software. The maximum potential emissions occur when gasoline is loaded, stored, and unloaded at the defined maximum throughput.

Emissions from the prover tank occur when it is filled, causing displaced vapors to vent to the atmosphere. The maximum potential emissions occur when gasoline is loaded during meter calibration testing, and is dependent on the number of calibration tests performed per unit of time. Emissions from this unit were calculated using Tanks Version 4.0 software.

Compliance Demonstration – (Permit Conditions 3.4, 3.5, 3.6, 3.7, and 3.8)

Compliance with the VOCs and HAPs emissions limits for gasoline and distillate fuel storage is demonstrated by monitoring the amount of each fuel type transferred through Tanks 301, 304, 311, 321, the Transmix and the Prover tanks tank. The Burley Products Terminal must install equipment to monitor the fuel throughput. The type and amount of fuel transferred must be monitored and recorded monthly for a rolling 12-month period to demonstrate compliance.

5.3.4 Distillate Fuel Grade Petroleum Product Storage Tanks

5.3.4.1 Emissions Limit – (Permit Condition 4.3)

Emissions from the fixed-roof storage tanks occur as a result of breathing and working losses as defined per AP-42, Section 7, and were calculated using Tanks Version 4.0 software. The maximum potential emissions from any one of these tanks occurs when distillate fuel grade petroleum product is loaded, stored, and unloaded at the defined maximum throughput. The maximum throughput for any one of these tanks is defined as the capacity of the pipeline supplying the terminal that distributes product to two of the three storage tanks. (This assumes that one of the storage tanks is off line for maintenance.)

Compliance Demonstration – (Permit Conditions 4.4, 4.5, 4.6, and 4.7)

Compliance with the VOCs and HAPs emissions limits for distillate fuel storage is demonstrated by monitoring the amount of each fuel transferred through Tanks 302, 305 and 306. The Burley Products Terminal must install equipment to monitor the fuel throughput. The amount of fuel transferred must be monitored and recorded monthly for a rolling 12-month period to demonstrate compliance.

5.3.5 Gasoline and Distillate Fuel Grade Petroleum Product Loading Rack System

5.3.5.1 Emissions Limit – (Permit Condition 5.3)

The maximum potential emissions from this source occur when gasoline is dispensed at the defined maximum throughput. The maximum potential VOCs emissions from the loading rack system were based on AP-42, Section 5.2, Equation (1). The maximum potential HAPs emissions from the loading racks system was calculated based on the maximum potential emissions rate for the HAPs contained in each product. Speciation of HAPs was obtained from the vapor mass fractions listed in the Tanks Version 4.0 software output.

Compliance Demonstration – (Permit Conditions 5.4, 5.5, 5.6 and 5.7)

Compliance with the VOCs and HAPs emissions limits for the loading rack system is demonstrated by monitoring the amount of each fuel type transferred through the system. The Burley Products Terminal must install equipment to monitor the fuel throughput. The type and amount of fuel transferred must be monitored and recorded monthly for a rolling 12-month period to demonstrate compliance.

5.4 NSPS Applicability

On May 3, 2000, the Sinclair Oil Corporation requested an NSPS (Subpart XX) applicability determination from EPA Region 10. On June 22, 2000, the EPA responded with a request for more information. On August 3, 2000, the Sinclair Oil Corporation provided the requested information to Region 10. As of this date, EPA Region 10 has not responded to the information provided on August 3, 2000.

In the August 3, 2000 submittal, the Sinclair Oil Corporation maintains that changing the loading rack configuration from top-loading to bottom-loading did not constitute a modification as defined in 40 CFR 60.14. They supplied emissions information supporting this position. On April 22, 1994, DEQ issued a PTC exemption for reconfiguring the loading rack system. The reason for the exemption was given as "the proposed loading rack does not meet the definition of modification under IDAPA 16.01.01003.63."

Therefore, changing the loading rack from a top-loading to a bottom-loading operation does not trigger the requirements of 40 CFR 60 Subpart XX.

5.5 NESHAPS Applicability

The issuance of the original Tier 2 operating permit dated August 23, 1996, established federally enforceable HAPs limitations below the applicability level of 40 CFR 63 Subpart R.

5.6 Compliance Review

No outstanding compliance issues currently exist at the Burley Products Terminal.

5.7 AIRS

Table 5.3 AIRS/AFS Facility-wide Classification Data Entry Form

AIR PROGRAM / POLLUTANT	SIP	PSD	NSPS (Part 60)	NESHAP (Part 61)	MACT (Part 63)	TITLE V	AREA CLASSIFICATION A – Attainment U – Unclassifiable N – Nonattainment
SO_2	B						U
NO_x	B						U
CO	B						U
PM_{10}	B						U
PT (Particulate)	B						U
VOC	A					A	U
THAP (Total HAPs)	SM						U
			APPLICABLE SUBPART				

AIRS/AFS Classification Codes:
A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For NESHAP only, class "A" is applied to each pollutant, which is below the 10 T/yr threshold, but which contributes to a plant total in excess of 25 T/yr of all NESHAP pollutants.
SM = Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.
B = Actual and potential emissions are below all applicable major source thresholds.
C = Class is unknown.
ND = Major source thresholds are not defined (e.g., radionuclides).

6. TIER II FEES

Fees apply to this facility in accordance with IDAPA 58.01.01.470. The Sinclair Oil Corporation facility in Burley, Idaho is a major facility as defined by IDAPA 58.01.01.008.10; therefore, it is subject to registration and registration fees in accordance with IDAPA 58.01.01.525. According to the Air Emissions Database for 2001, the Sinclair Oil Corporation has registered these emissions by paying fees.

7. RECOMMENDATIONS

Based on the review of the application materials, and all applicable state and federal regulations, staff recommends that DEQ issue a proposed Tier II operating permit to the Sinclair Oil Corporation Burley Products Terminal. An opportunity for public comment on the air quality aspects of the proposed operating permit shall be provided in accordance with IDAPA 58.01.01.404.01.c. The permit will be issued upon receipt of the fee.

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